

Site Highlights

Superfund

Remediation of Residential Properties

Montclair/West Orange and Glen Ridge Radium Sites
Montclair Township, West Orange Township and Glen Ridge
Borough, Essex County

Contaminated Soil Removal

Ellis Property
Evesham Township, Burlington County

Non-Superfund

Buried Drum Removal

Arky Property
Marlboro Township, Monmouth County

Landfill Capping Project

BEMS/Big Hill Landfill
Southampton Township, Burlington County

Service Station Cleanup

Neighborhood Garage
Middlesex Borough, Middlesex County

Lead-Contaminated Soil Removal

Urban Casting Company
Gloucester Township, Camden County

Montclair/West Orange & Glen Ridge Radium Essex County

A massive residential cleanup by USEPA at the Montclair/West Orange and Glen Ridge Radium Superfund sites made steady progress in 1998 and is nearing completion. About 20 properties still require soil removal out of 769 properties that were investigated in these Essex County communities. More than \$175 million in federal and state funds have been dedicated to these sites, which represent the largest environmental cleanup ever conducted at residential properties in New Jersey. Radiologically contaminated soil under-

neath area streets is scheduled to be removed in 1999 and 2000. USEPA hopes to complete all cleanup actions at properties and streets during 2000 with some monitoring and property maintenance to continue as needed. The contamination consists of radioactive tailings deposited as fill decades ago from the U.S. Radium Superfund site in nearby Orange.

For more information about these sites please see the site descriptions on pages 91 and 96.



A USEPA contractor takes gamma radiation measurements after radium-tainted soil was removed from a property in Montclair.

The entire backyard of this property in Montclair was excavated during cleanup actions in 1998 to address radium-tainted soil.





An excavator removes radium-tainted soil from Barrows Field in Glen Ridge. Layers of radioactive tailings can be seen in the fill used to create the park's landscape decades ago.

A truck's tarp is fastened before radium-tainted soil excavated from Barrows Field is transported to a rail yard in Irvington. The material is taken by train to a site in Utah for permanent disposal.



Barrows Field in December 1998 with new sod installed and landscaping almost complete after all radium-tainted soil had been removed.

Ellis Property

Evesham Township, Burlington County

NJDEP excavated approximately 1,400 cubic yards of soil contaminated with lead, arsenic and polychlorinated biphenyls (PCBs) from this site during the summer of 1998. The contaminated areas were excavated to approximately three feet below grade and subsequently backfilled with clean soil and seeded with grass. The soil removal was the first stage of a two-stage remedy

that has been established for this site. The second stage entails extracting and treating the ground water, which is contaminated with volatile organic compounds and metals. Construction of an on-site ground water treatment system is scheduled to begin in 1999.

For more information about this site, please see the site description on page 43.



Remediation of shallow soil contamination in progress.

A completed excavation is visible in the foreground. In the background, contaminated soil is temporarily staged on site prior to disposal at an off-site facility.



Arky Property

Marlboro Township, Monmouth County

In early 1998, NJDEP excavated 70 buried drums and approximately 1,000 cubic yards of contaminated soil from this former automobile junkyard. The drums of hazardous wastes had been crushed and buried by the operator of the junkyard prior to 1987. This was the second drum removal action that NJDEP conducted at this site,

bringing the total number of drums removed to almost 100. NJDEP has also initiated a Remedial Investigation to determine whether there is any additional contamination present at the site that requires cleanup action.

For more information about this site, please refer to the site description on page 167.



Top left: The excavated drums are temporarily staged on a tarp.

Top right: A backhoe is used to place deteriorating drums into an overpack container.

Bottom: The site after the excavation was backfilled and regraded.



BEMS/Big Hill Landfill

Southampton Township, Burlington County

In December 1998, NJDEP substantially completed installation of a solid waste type cap over the 40-acre BEMS/Big Hill Landfill in Southampton Township, Burlington County, a former municipal landfill that accepted limited quantities of hazardous wastes. The landfill is located in an ecologically sensitive Pinelands Protection Area and is bordered on two sides by a retirement community. The multilayer cap features an impermeable polyethylene liner, a storm water drainage system and a vegetated topsoil layer. An extensive landfill gas collection system was also installed during the capping project to capture methane gas that is being generated from decomposition of the wastes. The collected methane is burned at an on-site methane flare station.

Besides capturing the hazardous landfill gases and controlling storm water drainage, the cap serves another important function: preventing the infiltration of precipitation and thereby sharply reducing the production of leachate, which has been a source of contamination to the ground water and nearby surface waters. Studies have confirmed that the shallow aquifer at the site is contaminated with volatile organic compounds and metals above New Jersey's criteria for a Pinelands Protection Area. NJDEP is currently designing a ground water treatment system to remediate the shallow aquifer.

For more information about this site, please refer to the site description on page 39.

An aerial view of the BEMS/Big Hill Landfill as construction activities are underway.





Workers place a "boot" around the base of a methane gas extraction well in an area where the impermeable liner has been installed. This will help ensure that precipitation does not infiltrate the landfill and generate leachate.

Two methane gas extraction pipe lines are fused together.



The first layer of soil is placed over the impermeable liner. A final layer of topsoil will be placed on top of the landfill and the site vegetated to prevent erosion.

Neighborhood Garage

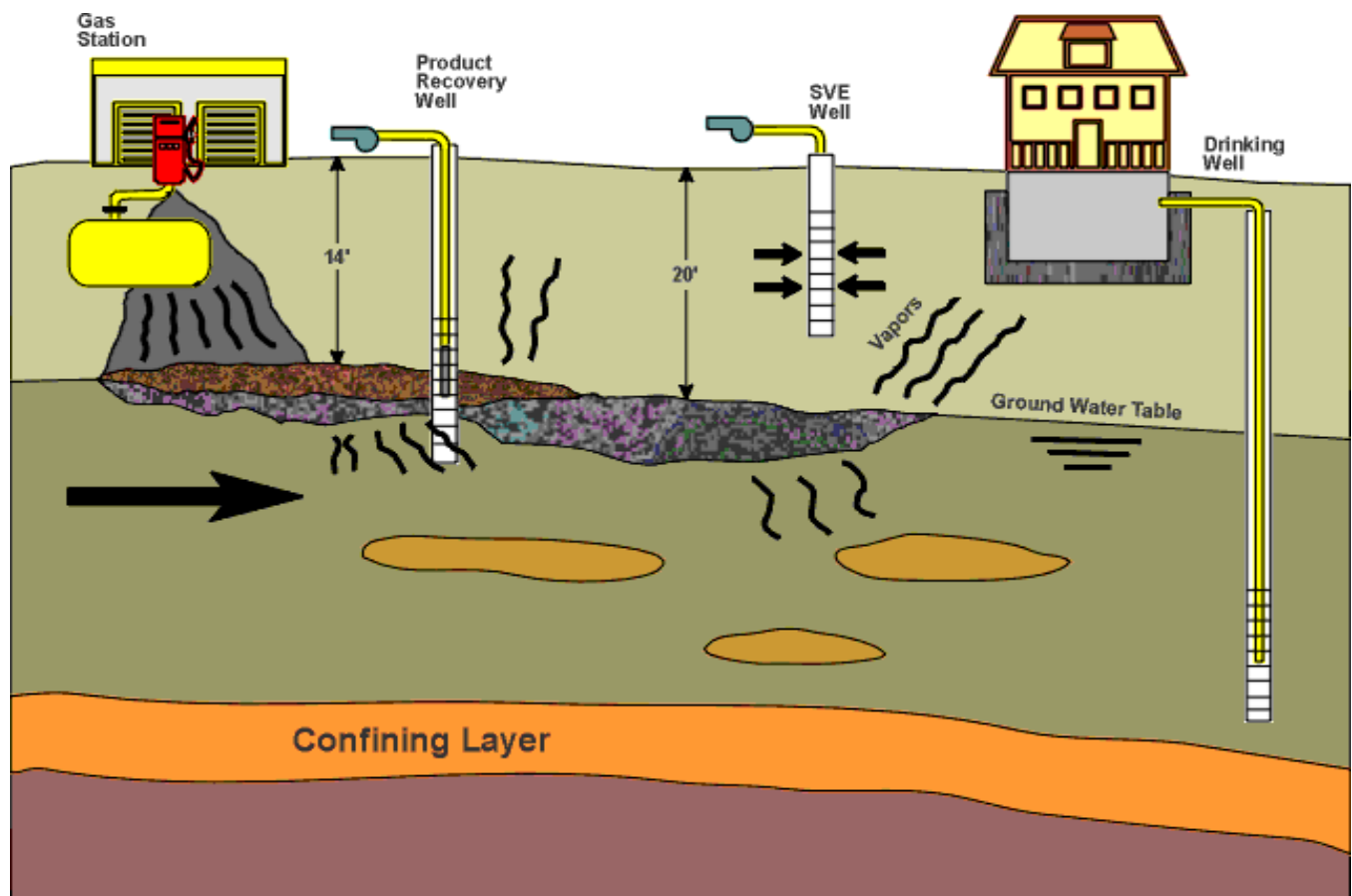
Middlesex Borough, Middlesex County

NJDEP removed approximately 3,000 cubic yards of gasoline-contaminated soil from a former underground tank pit at this automotive repair facility during the summer of 1998. The contaminated soil remained from two leaking underground storage tanks that the owner of the establishment had removed in 1995. NJDEP backfilled the excavation with clean soil and covered the

area with an asphalt cap to prevent the infiltration of rainwater. Remedial work has been underway at this site since 1997 to address gasoline product that is floating on the water table, which has caused hazardous vapors to occasionally build up in the basements of adjacent residences.

For more information about this site, please refer to the site description on page 162.

The diagram below shows how organic compounds volatilizing from a layer of floating gasoline product can cause hazardous vapors to accumulate in nearby residences. A soil vapor extraction system intercepts the vapors before they can reach the basements.





Gasoline-contaminated soil in the process of being excavated.

The device in the foreground is compacting the clean backfilled soil.



The site after the soil remediation was completed. The soil vapor extraction unit and the free-product recovery system are located in the fenced area between the garage and the residences.

Urban Casting Company

Gloucester Township, Camden County

NJDEP excavated 1,100 tons of lead-contaminated sand and soil from a residential property adjacent to this site in December 1997. The hazardous materials were spread over almost 6,000 square feet and were present to a depth of approximately five feet. The contamination occurred when waste sand-molds from the

company's metal casting operations were dumped there years ago. NJDEP has backfilled the excavation with clean soil and no further remedial actions are planned.

For more information about this site, please refer to the site description on page 66.



The former sand-mold disposal area is grubbed in preparation for remedial activities.

Excavating the lead-contaminated soil.

